User Manual

Scales of Y/KTPS series

Manual number:
ITKU-51-03-01-11-A

Control of Packaged Goods

Network version

- **WLY/KTPS Scales**
- **WPY/KTPS Scales**

MANUFACTURER OF ELECTRONIC WEIGHING INSTRUMENTS

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1. INTENDED USE

Scales of **WPY/KTPS** series together with **KTP NET** software constitute a multi-stand system (network). Each scale is an independent scale and information about the status of testing are sent in real time. The computer program allows to collect data in real time from every connected scale. The system allows to start test controls from scales or the computer level.

Cooperation scale-computer:

- Inventory of subsequent weighings in the database,
- Automatic printout of reports directly after a control has been completed,
- Sending identity codes from a scale to the computers to identify goods and operators (product code, operator code, batch quantity, batch number, Start/Stop test control),
- Defining product codes with descriptions (names) on the computer level. Users can add individual names that are specific for the working place.

2. PRECAUTIONARY MEASURES

A. Please, read carefully this user manual before and use the device according to its intended use;

B. Weighed loads should be placed in possibly central part of scale pan;

C. Do not clean the device with agents causing corrosion;

D. Weighing pan should be loaded with goods having gross mass lower than maximal capacity of the scale;

E. Do not leave loads on the pan for longer period of time ;

F. In case of failure, immediately disconnect scale power supply;

G. Devices that are to be withdrawn from usage should be utilized according to the law.

3. WARRANTY CONDITIONS

A. RADWAG is obliged to repair or change those elements that appears to be faulty because of production and construction reason,

B. Defining defects of unclear origin and outlining methods of elimination can be settled only in participation of a user and the manufacturer representatives,

C. RADWAG does not take any responsibility connected with destructions or losses derives from non-authorized or inappropriate (not adequate to manuals) production or service procedures,

D. Warranty does not cover:

- Mechanical failures caused by inappropriate maintenance of the device or failures of thermal or chemical origin or caused by atmospheric discharge, overvoltage in mains or other random event,
- Inappropriate cleaning.

E. Loss of warranty appears after:

- Access by an unauthorized service,
- Intrusion into mechanical or electronic construction of unauthorized people,
- Installing another operating system,
- Removing or destroying protection stickers.

F. The detailed warranty conditions one can find in warranty certificate.

G. Contact with the central authorized service:
+48 48 384 88 00 ext. 106 or 107.

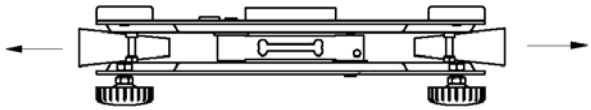
4. UNPACKING AND MOUNTING

4.1. WPY/KTPS/C1 scales

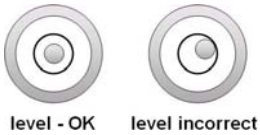
A. Take the device out of the package,

B. Put the scale on an even stiff ground,

C. Remove transport protection:



D. Scale should be levelled by turning regulation feet. Levelling is correct if air bubble is situated in the central position:

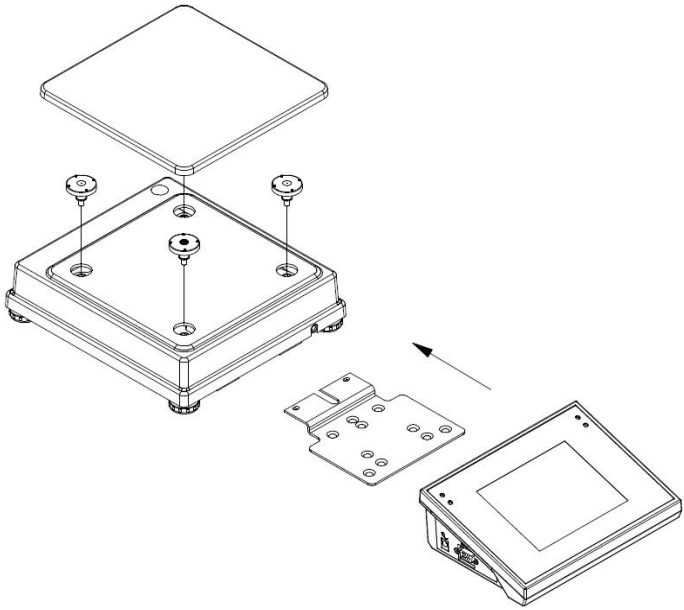


4.2. WPY/KTPS/D2 scales

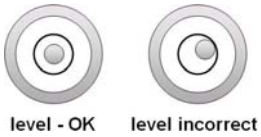
A. Take the device out of the package,

B. Put the scale on an even stiff ground,

C. Fit the pan and the bracket under the device according to the drawing:



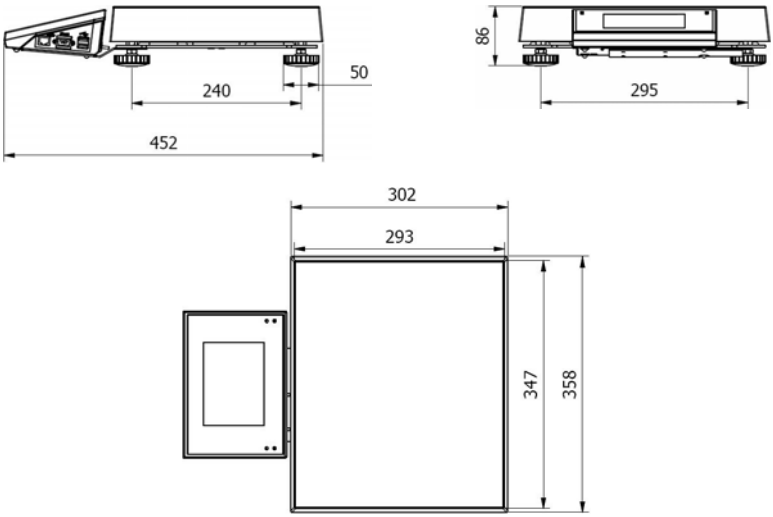
E. Scale should be levelled by turning regulation feet. Levelling is correct if air bubble is situated in the central position:



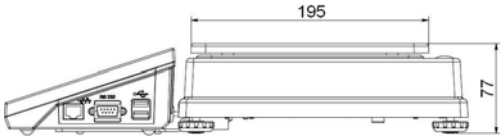
5. SCALE CONSTRUCTION

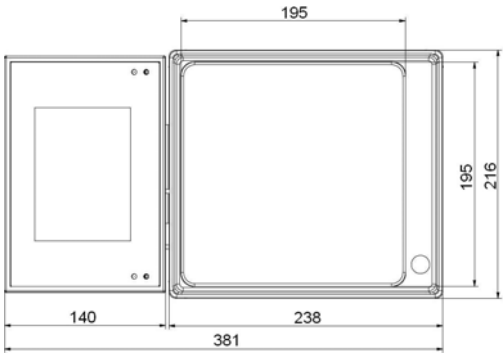
5.1. Main dimensions

5.1.1. WPY/KTPS/C1 scales



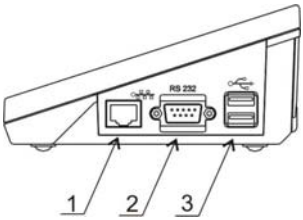
5.1.2. WPY/KTPS/D2 scales



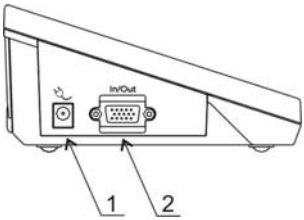


5.2. Description of connectors

5.2.1. Connectors' description in PUE 7

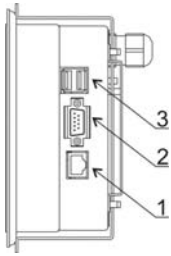


1 – Ethernet RJ45
2 – RS232 (COM1)
3 – USB

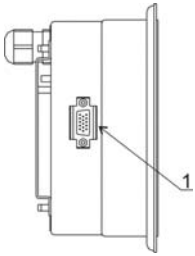


1 – power supply socket
2 – I/O, RS232 (COM2)

5.2.2. Connectors' description in PUE 7P

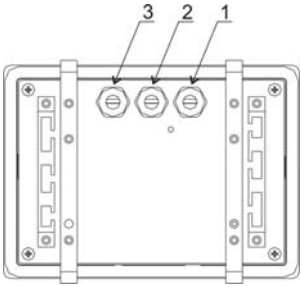


1 – Ethernet RJ45
2 – RS232 (COM1)
3 – USB



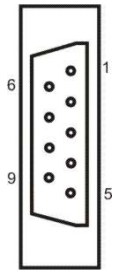
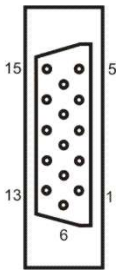
1 – I/O, RS232 (COM2)

5.2.3. Description of glands PUE 7P



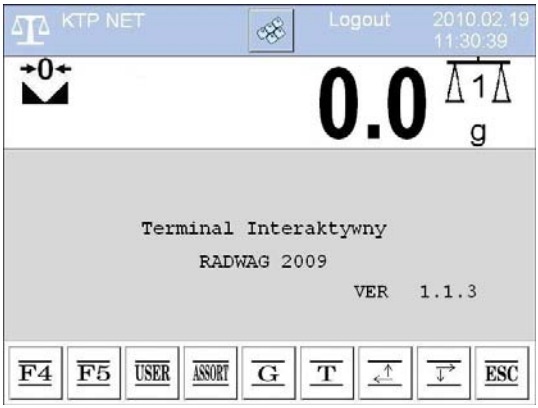
1 – Supply cord gland
2 – Gland for platforms 1, 2
3 – Gland for platforms 3, 4

5.2.4. Connector with RS232 and I/O

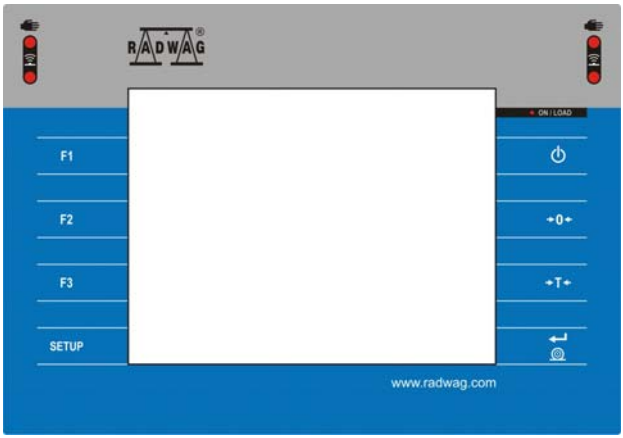
	**RS232 - DB9/M (male), top view:** Pin2 - RxD Pin3 - TxD Pin5 - GND
	**I/O, RS232 DSUB15/F (female), top view:** Pin1 - GNDWE Pin2 - OUT1 Pin3 - OUT2 Pin4 - COMM Pin5 - 6÷9VDC Pin6 - IN4 Pin7 - IN3 Pin8 - TxD2 Pin9 - 5VDC Pin10 - GNDRS Pin11 - IN2 Pin12 - IN1 Pin13 - RxD2 Pin14 - OUT4 Pin15 - OUT3

6. GETTING STARTED

- After the terminal is connected to power the ON/LOAD ON / LOAD diode starts to light.
- Press ⏻ to start the operating system loading procedure. Windows CE together with RADWAG software loading is signalled by blinking the red diode ON/LOAD.
- When the loading procedure is completed the main software window appears.



7. KEYPAD OVERLAY



8. FUNCTIONS OF KEYS

8.1. Keys on the overlay

Key	Description
	Turning on/off the scale
	Zeroing
	Tarring
	Confirmation of weighing
	Entering the scale menu (not active after establishing a connection with the computer)
	Selecting products
	Selecting operators
	Batch quantity declaration

8.2. Screen function buttons

Key	Description
	Batch number declaration
	Starting / completing test controls
	Open the list of operators
	Open the list of products
	Entering density
	Starting the procedure of estimating the average tare

	Moving left the description line for button functions. Scrolling up the list of operators or products
	Moving right the description line for button functions. Scrolling down the list of operators or products
ESC	Leaving the screen displaying the list of operators or products

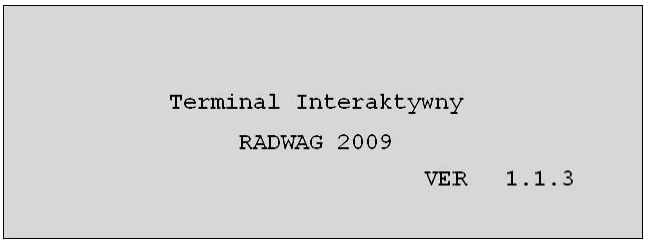
9. INDICATING WINDOW

In the main application window one can see four separate parts:

1. The working mode information is displayed in the top part of the display. It is accompanied by date and time. Additionally following functions are accessible:
   - operator „Logout”,
   - show / hide the screen keyboard (button)

2. Below the status bar you can see weighing window(s).:

3. There is a workspace below this window:
   - In case of lack of communication with the computer the screen looks like below:



- If a scale establishes connection with the database following messages are displayed in the workspace:

```
INCORRECT CODES IN SCALES
NO OPERATOR INCORRECT PRODUCT CODE
SET CODES -> F1, F2, F3, F4
[F1]Assortment [F2]Operator [F3]Quantity
```

Notice:
Description of setting codes and cooperation with PC software ***KTP NET 2003*** *can be found in ch. 18 of this manual.*

4. There are screen buttons below the workspace (description of button functions – see ch. 8.2 of this manual)::

10. PROGRAM STRUCTURE

The main menu has been divided into six functional groups.
In every group there are parameters of similar use.

Icon	Description
	Scale
	Communication
	Devices
	Display
	Other
	User Calibration

10.1. Inventory of parameters

10.1.1. Scale parameters - weighing

Icon		Description	Value
		Platform 1	-
		Median Filter	0.5
		Filter	Fast
		Autozero	Yes
		LO threshold	0
		Weighing software version	2.0

10.1.2. Communication

Icon		Description	Value
		COM1	-
		Baud Rate	9600
		Data bits	8
		Stop bits	1
		Parity	None
		COM2	-
		Baud Rate	9600
		Data bits	8
		Stop bits	1

		Parity	None
		Ethernet	-
		DHCP	No
		IP Address	192.168.0.2
		Subnet mask	255.255.255.0
		Gateway	192.168.0.1
		Tcp	-
		Port	4001

10.1.3. Devices

Icon		Description	Value
		Computer	
		Port	None
		Address	1
		Printer	-
		Port	COM1
		Code page	1250
		Barcode reader	-
		Port	None
		Offset	0

		Code length	0
		Transponder card reader	-
		Port	None

10.1.4. Display

Icon		Description	Value
		Actions	-
		Left proximity sensor	None
		Right proximity sensor	None
		Input 1	None
		Input 2	None
		Input 3	None
		Input 4	None
		Set Default	-
		Show all platforms	No

10.1.5. Others

Icon	Description	Value
	Language	Polish
	Date & Time	-
	Beep	Buttons

	Touch screen calibration	-
	Factory Number	-
	Software version	2.0.0 KTP NET

10.1.6. User Calibration

An option only for non-verified scale

Icon		Description	Value
		Platform 1	-
		Setting of start mass	-
		Calibration	-

10.2. Navigating within the menu

Owing to the colour display with the touch panel navigating within the menu is simple and intuitive.

10.2.1. Buttons

Entering the main menu

Menu list „up”

Menu list „down”,

Scrolling „up-down”

Decreasing parameter value

Increasing parameter value

Enter (OK)

Abort

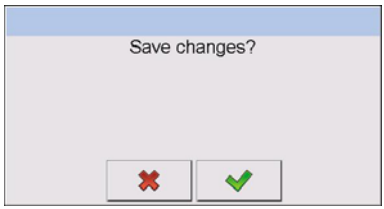
Clearing an editing field

Screen keyboard on / off

One level up

10.2.2. Return to weighing

The changes introduced are saved for good after they are confirmed. Press several times until the following message box appears:



Press: – to confirm changes or – to abort changes. The program returns to weighing.

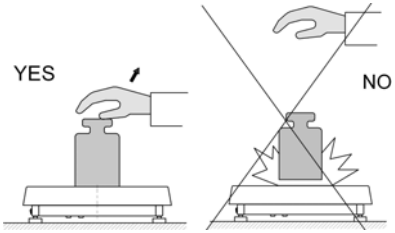
11. WEIGHING

Put a load on the weight pan. When pictogram ◣◢ is displayed the indication is ready to read.

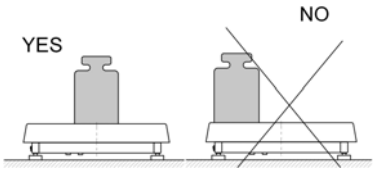
11.1. Conditions of operational use

In order to assure a long term operating period with appropriate measurements following principles should be adhered to:

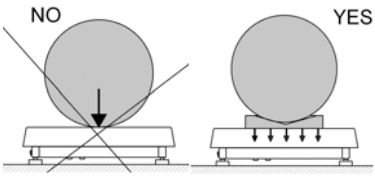
- Avoid applying mechanical shocks to the weight pan:



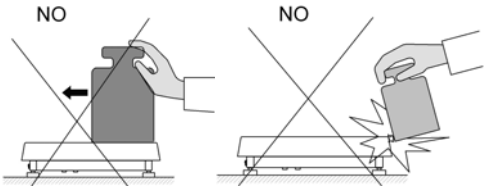
- Loads should be placed in the centre of the pan (eccentric errors are outlined in PN-EN 45501 chapter 3.5 and 3.6.2):



- Do not apply concentrated forces (all load in one point):



- Avoid side loads, particularly side strokes:



11.2. Zeroing

In order to zero the indication choose a platform on the touch panel and press →0←.
After zeroing is performed the indication is equal zero and following symbols usually appear: →0← and ◣◢.

Zeroing is possible only when the indication is stable.

Notice:
*Zeroing is possible only within **±2%** of full range around zero. If the zeroed value is beyond the interval of **±2%, Err2** is displayed.*

11.3. Tarring

In order to tare the scale choose a platform on the touch panel if necessary, put a package on the pan and press →T←. You will see the indication equal zero and following symbols usually appear:: ***Net*** and ◣◢.

After placing a load on the weight pan net mass will be shown. Tarring is possible within the whole range of the scale. After unloading the pan the display shows the tarred value with minus sign.

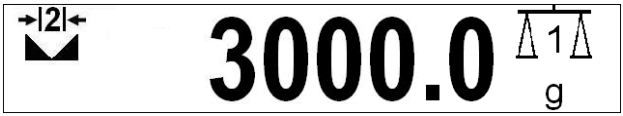
You can also inscribe tare values to the assortment database. Every product has a field “Tare”. In that case tare is automatically set to this value after selecting the product.

Notice:
*Tarring cannot be performer when a negative or zero value is being displayed. In such case **Err3** appears on the display.*

11.4. Weighing for dual range scales

Switching between the **I range** and the **II range** happens automatically (exceeding Max of the **I range**).

Weighings in the second range is signalled by a pictogram in the top left corner of the display →|2|← . Then weighings is done with the accuracy of the **II range** to the moment of returning to zero (autozero range -0-**)** where the scale switches back to the **I range**.



Switching between the **II range** and **I range** is automatic both in the switching point the autozero zone. While in AUTOZERO – pictogram -0- appears. Then pictogram →|2|← is off and a scale returns to weighing in the **I range**.

12. SCALE PARAMETERS

Users can set the scale according to the ambient conditions (filtering level) or own needs (autozero) and set the LO threshold for minimum load that enables operation of some functions. This parameters are placed in **<Weighing>**.

In order to enter submenu **<Weighing>,** press SETUP and then: **„Weighing / Platform 1”**.

Notice:
Weighing parameters are directly related to a specific weighing platform, so at the beginning the weighing platform should be selected for which we want to set parameters.

Inventory of scale parameters:

Median Filter

Filter

Autozero

LO Threshold

12.1. Median filter

The median filter is intended for eliminating short-lasting mechanical shocks.

Procedure:

- Enter **<** **Weighing>** according to ch. 12 of the manual, select **<** **Median Filter>** and then set an appropriate value.

Accessible settings:

None - median filter is off
0.5, 1, 1.5, 2, 2.5 - filtering level to choose

12.2. Filter

This filter is intended to suppress continuous mechanical vibrations at the cost of stabilization time.

Procedure:

- Enter **<** **Weighing>** according to ch. 12 of the manual, select **<** **Filter>** and then set an appropriate value.

Accessible settings:

None, V. Fast, Fast, Average, Slow.

Notice:
The higher filtering level the longer stabilization time.

12.3. Autozero

The autozero function has been implemented in order to assure precise indications. This function controls and corrects **„0”** indication.

While the function is active it compares the results continuously with constant frequency. If two sequentional results differ less than the declared value of autozero range, so the scale will be automatically zeroed and the pictograms and 0 will be displayed.

If AUTOZERO is disabled zero is not corrected automatically. However, in particular cases, this function can disrupt the measurement process e.g. slow pouring of liquid or powder on the weighing pan. In this case, it is advisable to disable the autozero function.

Procedure:

- Enter **<** **Weighing>** according to ch. 12 of the manual, select **<** **Autozero>** and then set an appropriate value.

Accessible settings:

NO	-	Autozero off
YES	-	Autozero on

12.4. Minimum weight for different functions (LO)

Parameter **<LO THRESHOLD>** is associated with automatic weighing. Next weighing will not be saved until the indication goes under the **THRESHOLD LO** (net).

Procedure:

- After entering **<** **Threshold Lo>** according to ch. 12 of this manual a keyboard is displayed,
- Inscribe LO and confirm by pressing .

13. COMMUNICATION

The scale can communicate with external devices via different ports:

- COM 1 (RS232),
- COM 2 (RS232),
- Ethernet,
- Tcp.

The communication can be configured in parameters' group **<Communication>**.
In order to enter **<Communication>**, press SETUP and then **<Communication>**.

13.1. RS 232 settings

Procedure:

- Enter **<Communication>** according to ch.13 of the manual, select **<COM1>** or **<COM2>**, and then set an appropriate value.

For RS 232 following parameters are accessible:

- Baud Rate - 4800, 9600, 19200, 38400, 57600, 115200 bit/s
- Data bits - 5, 6, 7, 8
- Stop Bit - No, 1, 1.5, 2
- Parity - No – Odd – Even – Mark – Space

13.2. ETHERNET setting

Procedure:

- Enter **<Communication>** according to ch.13 of the manual , select **<Ethernet>** and then set an appropriate value.

Following settings are accessible for Ethernet:

- DHCP - Yes – No
- IP Address - 192.168.0.2
- Subnet Mask - 255.255.255.0
- Default gateway - 192.168.0.1

Notice:
The settings above are only for information purposes. Transmission parameters should be matched to the local client network.

- Go back to weighing saving parameters and restart the device.

13.3. TCP protocol setting

TCP *(Transmission Control Protocol)* is a protocol for communication between two computers. It operates in mode client-server. Server awaits on connection initiation on a specified port while client initiates connection to the server. Scale software allows setting the port for the **„Tcp”** protocol.

Procedure:

- Enter **<** **Communication>** parameter group as described in chapter 13 of the manual,
- Select: **„** **Tcp /** **Port”** then you will see window **<Port>** with the screen keyboard,
- Enter the required number and press .

14. DEVICES

14.1. Computer

Scales can cooperate with PC software **KTP NET**. In submenu **<** **Computer>** some settings needs to be configured for cooperation with computers.

Enter submenu **<** **Computer>**, press and then:
„ **Devices /** **Computer”**.

14.1.1. Computer port

Procedure:

- Enter parameters' group **<** **Devices>** according to ch. 14 of this manual, select **„** **Computer /** **Port”** and then set the appropriate option.

The scale can communicate with a computer via following ports:

- RS 232 (COM1),
- RS 232 (COM2),
- Tcp.

14.1.2. Computer address

Procedure:

- Enter **<** **Devices>** parameter group as described in chapter 14 of the manual,
- Choose **„** **Computer /** **Address”** then the window **<Address>** with the screen keyboard appears,
- Enter the required address and confirm it by pressing .

14.2. Printer

In **<** **Printer>** submenu users can:

- Setting communication with a printer,
- Setting code page of a printer.

To enter **<** **Printer>**, press and then:
„ **Devices /** **Printer”**

14.2.1. Printer port

Procedure:

- Enter **<** **Devices>** parameter group as described in chapter 14 of the manual, choose **„** **Printer** / **Port”** and then select an appropriate option.

Printers can be attached to:

- RS 232 (COM1),
- RS 232 (COM2),
- USB.

14.2.2. Printer code page

Procedure:

- Enter parameters **<** **Devices>** as described in chapter 14 of the manual,
- Choose **„** **Printer /** **Code Page”** then the screen keyboard will be displayed,
- Write the required code page and confirm by pressing .

  Notice:
  The default value is 1250 – code page for Middle-East Europe.

14.3. Barcode scanner

Cooperating with a barcode scanner allows immediate finding of the product in the assortment database the wanted product immediately. Configuration of communication can be configured in **<** **Barcode reader>**. Users can set the following things:

- Communication port for a barcode scanner,
- Offset setting (a number of characters that are omitted while reading),
- Code length (number of characters that are analysed counting from the offset).

Notice:

In submenu < ***Communication>*** *set the baud rate (default 9600b/sec). The detailed description of cooperation scale – barcode scanner can be found in* ***APPENDIX A*** *in this manual.*

14.3.1. Port for barcode scanner

Procedure:

- Enter **<** **Devices>** according to ch.14 of the manual, choose **„ Barcode reader** / **Port”** and then set the appropriate value.

Barcode scanners can be connected to:

- RS 232 (COM1),
- RS 232 (COM2),

14.3.2. Offset

It outlines the first character that is significant for searching the assortment database. All preceding characters are skipped.

Procedure:

- Enter **<** **Devices>** according to ch.14 of the manual,
- Choose **„ Barcode reader** / **Offset”** , then the screen keyboard is displayed,
- Write a new offset and confirm it by pressing .

14.3.3. Code length

Number of characters that is considered while searching the assortment database.

Procedure:

- Enter **<** **Devices>** according to ch.14 of the manual,
- Choose **„** **Barcode Scanner** / **Code Length”** then the screen keyboard is displayed,
- Write a new length and confirm it by pressing .

14.4. Transponder card reader

Depending on settings in PC software **KTP NET**, selecting (logging on) an operator, after establishing connection with the computer, can be performed by:

- Typing a password on a keyboard,
- Approaching a transponder card to the reader.
  The card needs to be registered first.

Notice:

In case of problems with reading transponder cards check the submenu **<** ***Communication>*** *and set appropriate baud rate (default 9600b/s).*

14.4.1. Com port for transponder card readers

Procedure:

- Enter group of parameters **<** **Devices>** according to ch. 14 of this manual, select **„** **Transponder cards reader** / **Port”** and set appropriate option.

The scale can communicate with the reader via following ports:

- RS 232 (COM1),
- RS 232 (COM2).

15. DISPLAY

15.1. Function keys

In submenu **<** **Actions>** users can set actions following keys:

- proximity sensors,
- digital inputs of PUE7.

If a sensor or input has been attributed a function it has been activated at the same time. If a sensor or input has no ascribed a function in stays inactive.

Procedure:

- Press SETUP and then: **„Display / Actions”**,
- Ascribe actions for optical sensors and/or digital inputs.

List of functions:

	Zero
	Tare
	Enter tare *
	Parameters
	Local Parameters *
min max	Set MIN and MAX *
	Print
ESC	Escape
USER	User

	Assort
	Logout
	F1
	F2
	F3
	F4
	F5
	Arrow up
	Arrow down
	G
	T

***)** – Functions not attached to software **KTP NET**.

15.2. Displaying platforms

If a terminal is equipped with two platforms users can switch between platforms in two ways:

- By pressing the platform number on the scale screen,
- By activating in parameters all platforms that will be separately placed in the main window of the program. In that case platforms can be activated by pressing the area of this platform.

To activate all platforms press SETUP, choose:
„ **Display /** **Show all platforms”**,

and set appropriately.

NO	-	Displaying all platforms disabled
YES	-	Displaying all platforms enabled

16. OTHER PARAMETERS

There is a group of parameters different from others which influence the operation of the scale.

They are gathered in group **<** **Others>** e.g. language, beep etc.

To enter **<** **Others>**, press SETUP and then **<** **Others>**.

16.1. Languages

Procedure:

- Enter submenu **<** **Others>** according to ch. 16 of this manual, choose **<** **Language>** and set the parameter.

Accessible languages:

- Polish,
- English,
- German,
- French,
- Russian,
- Spanish.

16.2. Setting date and time

Users can set date and time that are visible in the main window of the display.

Procedure:

- Enter **Others>** according to ch. 16 of this manual,
- Select option **Date and Time>** then the screen keyboard appears,
- Set year, month, day, hour, minutes and confirm by pressing .

16.3. Sound signal

Procedure:

- Enter **Others>** according to ch. 16 of this manual, **Beep>** and set accordingly.

Settings:

None	-	Sound for buttons and proximity sensors disabled
Buttons	-	Sound for buttons enabled
Sensors	-	Sound for proximity sensors enabled
All	-	Sound for buttons and proximity sensors enabled

16.4. Touch panel calibration

Touch panel calibration is required when inappropriate operation is recognized. E.g. the reaction in a different place than the touching point.

Procedure:

- Enter submenu **Others>** according to ch. 16 of this manual,
- Select **Touch Screen Calibration>** and then an editing field appears,
- Using a thin and soft pointer press (keep pressed for some time) in the point where the cross appears, after indicating the 4th place confirm changes by pressing .

16.5. Software version

Procedure:

- Enter submenu **<** **Others>** according to ch. 16 of this manual, choose **<** **Software Version>** to see the program version number.

16.6. Factory number

Procedure:

- Enter submenu **<** **Others>** according to ch. 16 of this manual, choose **<** **Factory number>** to see the program version number.

17. CUSTOMER CALIBRATION

An option only for non-verified scale

Scales require to recalculate internal divisions to more suitable ones (e.g. g, kg etc.). In order to do this they require a calibration factor. It is adjusted during the calibration procedure using a mass standard. Calibration should be made when weighing a standard mass shows a different mass value.

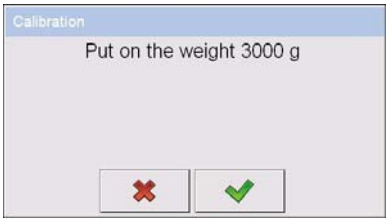
To enter **<** **Customer Calibration>**, press

and then:
< **Customer Calibration>**.

17.1. Calibration procedure

- Enter submenu **<** **Customer Calibration>** according to ch. 17 and select: **“** **Platform 1 /** **Calibration”**,
- After entering the parameter the following message box appears:

- Take the load off the pan of platform 1,
- Press button . The following message appears during adjusting start mass: **„Evaluation of starting mass”**,
- After the procedure has been completed the following message box appears:



- Put calibration mass on pan of platform 1 and then select ,
- After the procedure of calibration factor determination following command appears:

- Return to weighing, saving parameters.

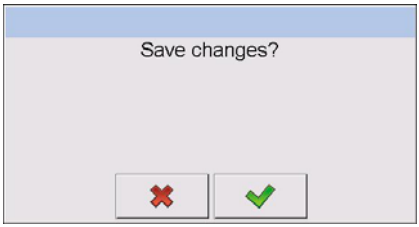
<Setting of start mass> parameter allows to adjust start mass of platform 1.

Notice:
The factory calibration process for platforms 2, 3, 4 is analogical to the one described above.

Return to weighing:

The changes introduced are saved for good after they are confirmed.

Press several times until the following message box appears:



Press: – to confirm changes or – to abort changes. The program returns to weighing.

17.2. Start mass adjustment

It is possible to adjust only a start mass, it helps to correct the start zero when the span does not change.

Procedure:

- Enter submenu **<Customer Calibration>** according to ch. 17 and select: **"Platform 1 / Setting of start mass"**,
- After entering the parameter the following message box appears:

- Take the load off the pan of platform 1,
- Press button . The following message appears during adjusting start mass: **„Evaluation of starting mass"**,

- After the procedure has been completed the following message box appears:

- Return to weighing, saving parameters.

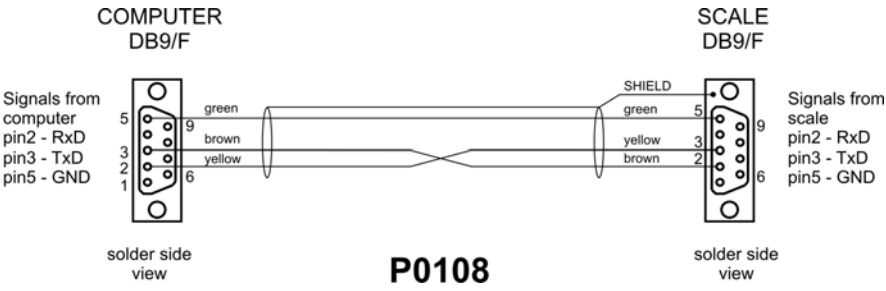
18. COOPERATION WITH PROGRAM KTP NET

18.1. Connection with computers

In order to establish connection with computer software **KTP NET** :

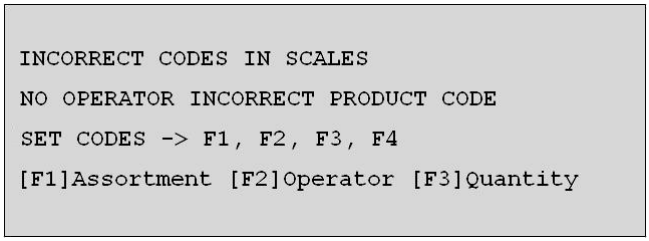
- In submenu **<Computer>** choose the communication port and scale address (see ch. 14.1 of this manual),
- In submenu **<Communication>** configure the selected port (see ch. 13 of this manual),
- Connect the scale and computer using an appropriate cable.

Cable diagram scale – computer (RS232)



Notice:
*Cable „**scale - Ethernet”** is the standard Ethernet cable terminated by connector RJ45 .*

After establishing connection of a scale with the database in the PC software, following messaged are displayed in the workspace:


INCORRECT CODES IN SCALES
NO OPERATOR INCORRECT PRODUCT CODE
SET CODES -> F1, F2, F3, F4
[F1]Assortment [F2]Operator [F3]Quantity

Notice:

In the last fourth line of the work area there are descriptions of button functions. Using ↑← and ↓→ this line can be moved on the screen.

In order to start the test control choose:

- Product,
- Operator,
- Batch quantity,
- Batch number.

18.2. Choosing product

Choosing products can be done by:

- Entering a identifier form the scale keyboard,
- Product name related searching,
- Product code related searching,
- Using a barcode scanner (see ch. 14.3 of this manual).

18.2.1. Choosing products by entering identifier

Procedure:

- Press

, then you will see dialog box **<Enter product identifier>** with the screen keyboard,
- Enter the required product identifier and press to confirm it, then software returns to the main window.

Notice:
If no product with the entered identifier does not exist in the database there is a message box displayed for 2 seconds: ***<No product with such a identifier>****. The weighing program returns to displaying* ***<Enter product identifier>****.*

18.2.2. Product name related searching

Procedure:

- Press button

, then the list of products from the database is displayed,
- Using buttons or set marker **„>”** next to required product,
- When the number of records in the database is significant users can search the database. To do this:
  - Press in the top bar of the screen in order to display the screen keyboard,
  - Enter the name or its part and press to hide the screen keyboard,
  - The program will automatically display the list of items filtered by the given pattern.

Notice:
If no record matched the given criterion the program displays the message: ***<NO ITEMS MEETING SEARCHING CRITERIA!>****. Display the screen keyboard again and change the entered name.*

- In order to confirm the selected item press ,
- Press ESC to leave the list without changes.

18.2.3. Product code related searching

Procedure:

- Press button ASSORT, then the list of products from the database is displayed,
- Press , and then a message **<SEARCHING ACCORDING TO CODE>** and the list of products complemented by codes is displayed,
- Using buttons ↑ or ↓ set marker **„>”** next to the required product,
- When the number of records in the database is significant users can search the database. See ch. 18.2.2.,
- In order to confirm the selected item press ,
- Press ESC to leave the list without changes.

18.3. Choosing operators

Choosing operators can be done by:

- Entering a identifier form the scale keyboard,
- Operator name related searching,
- Operator code related searching,
- Using a RFID transponder card reader (see ch. 14.4 of this manual).

Notice:
*Logging on operators is disabled/enabled from the program **KTP NET**.*

18.3.1. Choosing operators by entering identifier

Procedure:

- Press F2, then you will see dialog box <**Enter user identifier>** with the screen keyboard,
- Enter the required operator identifier and press to confirm it, then software returns to the main window.

Notice:
If no operator with the entered identifier does not exist in the database there is a message box displayed for 2 seconds: ***<No operator with such a identifier!>****. The weighing program returns to displaying* ***<Enter operator identifier>****.*

18.3.2. Wybór z listy po nazwie operatora

Procedure:

- Press button USER, then the list of users from the database is displayed,
- Using ↑ or ↓ set marker **„>”** next to required operator,
- When the number of records in the database is significant users can search the database. See ch. 18.2.2.,
- In order to confirm the selected item press ,
- Press ESC to leave the list without changes.

18.3.3. Wybór z listy po kodzie operatora

Procedure:

- Press button USER, then the list of users from the database is displayed,
- Press F1, and then a message **<SEARCHING ACCORDING TO CODE>** and the list of operators complemented by codes is displayed,
- Using ↑ or ↓ set marker **„>”** next to required operator,

- When the number of records in the database is significant users can search the database. See ch. 18.2.2.,
- In order to confirm the selected item press ,
- Press ESC to leave the list without changes.

18.3.4. Choosing operators using RFID readers

In order to log in using an RFID transponder card reader the card need to be attributed to an operator in the database of PC software. The mode of saving transponder cards numbers can be enabled form the level of program **KTP NET**.

If all this conditions are fulfilled approaching the registered card to the card reader causes automatic logging in of the operator.

18.4. Entering batch quantity

Procedure:

- Press , then you will see dialog box **<Enter batch quantity>** with the screen keyboard,
- Enter required batch quantity and confirm by pressing , then software returns to the main window.

18.5. Entering a batch number

Procedure:

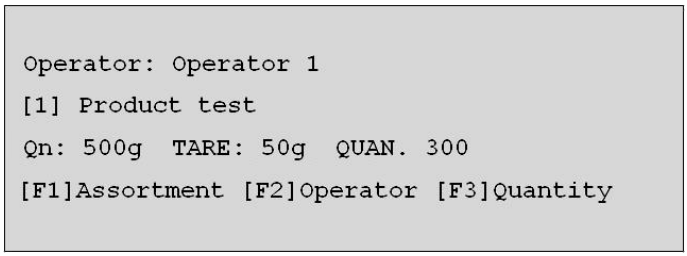
- Press F4, then you will see dialog box **<Enter batch number>** with the screen keyboard,
- Enter required batch number and confirm by pressing , hen software returns to the main window.

18.6. Starting test control

After all the necessary codes are entered following information are displayed in the main window workspace:

- Operator name,
- Product code and name,
- Product nominal mass (Qn),
- Tare ascribed to the product (for controls with average tare),
- Batch quantity,
- Test control mode.

Exemplary look of workspace in the main window:



Depending on settings in the computer program (for a selected product), operators can perform testing:

- With average tare,
- full / empty (destructive),
- empty / full,
- full / empty.

Press $\overline{\mathbf{F5}}$ to start testing.

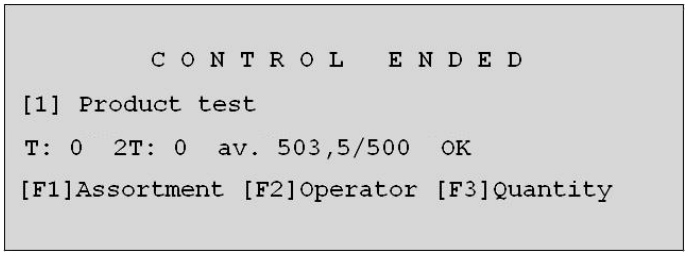
18.7. Test control with average tare

Procedure:

- After starting a test control following data are displayed in the display workspace:

[1] Product test	-	Product code and name
Qn	-	Product nominal mass
TARE	-	Tare value attributed to the product
PUT 1 / 30	-	Command concerning putting subsequent products that are numbered out of the whole sample
T	-	Number of errors **T** (Lower than Qn –T) in the sample
2T	-	Number of errors **2T** (Lower than Qn –2T) in the sample
Th. 1	-	Sample number
av.	-	Average mass of controlled goods
OK	-	Test results: **OK.** - positive, **WRONG** - negative
Test in progress	-	Status
F5-End	-	Description of button terminating control
NET	-	Net mass of tested products

- According to the command on the screen put on the weight pan subsequent products and after stabilizing press to send subsequent measurements to the computer,
- After completing a test control following data are displayed in the workspace:



18.8. Empty – full control

For controls **„empty-full”** in computer software **KTP NET** in the product settings users can set a measurement **„charge”**. The weighing program during testing requires putting a charge of empty packages and then a charge of the same packages filled with products put in the same sequence.

Procedure:

- After starting a test control following information data are displayed in the display workspace:

[1] Product test	-	Product code and name
Qn	-	Product nominal mass
Load empty: 1/10	-	Command concerning putting subsequent products that are numbered out of the whole charge
1/30	-	Number of performed full measurements out of the sample quantity
TARE VALUES COLLECTING	-	Message for command **„Load empty”**
T	-	Number of errors **T** (Lower than Qn –T) in the sample
2T	-	Number of errors **2T** (Lower than Qn –2T) in the sample
av.	-	Average mass of controlled goods
OK	-	Test results: **OK.** - positive, **WRONG** - negative
Test in progress	-	Status
F5-End	-	Description of button terminating control
NET	-	Net mass of tested products

- According to the command on the screen put on the weight pan subsequent empty or full packages and after stabilizing press ,
- After completing a test control different data are displayed in the workspace (see ch. 18.7).

18.9. Full – empty control

For controls**„full - empty”** in computer software **KTP NET** in the product settings users can set a measurement **„charge”**. The weighing program during testing requires putting a charge of full packages and then a charge of the same packages emptied put in the same sequence.

Procedure:

- After starting a test control following information data are displayed in the display workspace:

[1] Product test	-	Product code and name
Qn	-	Product nominal mass
Load full 1/10	-	Command concerning putting subsequent products that are numbered out of the whole charge
1/30	-	Number of performed full measurements out of the sample quantity
GROSS WEIGHINGS COLLECTING	-	Message for command **„Load full"**
T	-	Number of errors **T** (Lower than Qn –T) in the sample
2T	-	Number of errors **2T** (Lower than Qn –2T) in the sample
Av.	-	Average mass of controlled goods
OK	-	Test results: **OK.** - positive, **WRONG** - negative
Test in progress	-	Status
F5-End	-	Description of button terminating control
NET	-	Net mass of tested products

- According to the command on the screen put on the weight pan subsequent full or empty packages and after stabilizing press ,
- After completing a test control different data are displayed in the workspace (see ch. 18.7).

18.10. Estimating average tare

Users can perform the procedure of estimating average tare before starting testing in mode **„Average tare"**. This procedure consist in weighing at least 10 empty packages. It is possible only if **„TARE CHECKING MODULE"** is enabled in computer program **KTP NET** .

Procedure:

- After selecting a product intended to be tested in mode **„Average tare"** press $\overline{T}$, and then following information data are displayed in the display workspace:

[1] Product test	-	Product code and name for attributing a tare value
TARE	-	Present tare value
Put pack. 1/10	-	Command concerning putting subsequent products that are numbered out of the whole sample

Deviation	-	Standard deviation
Adm.	-	Acceptable value of standard deviation
Test in progress	-	Status
F5-End	-	Description of button terminating control
NET	-	Net mass of tested package

Notice:
*In order to have a product tested in mode **„Average Tare”**, standard deviation „**Deviation**” of weight of tested packages (sample of at least **10** measurements) cannot exceed **0.25** of the maximum acceptable negative limit **T** with reference to the nominal package weight.*

- According to the command ordering what to put on the weight pan one need to follow them and press after stabilizing to confirm every weighing,
- If the tare test result is positive following summarizing data can be seen in the display workspace:

```
[1] Product test
TARE CHECKING MODULE:  TARE: 49,85 g
s<0.25T1 START TESTING TARE:=49,85 g
[F1]Assortment [F2]Operator [F3]Quantity
```

- If the tare test result is negative following summarizing data can be seen in the display workspace:

```
[1] Product test
TARE CHECKING MODULE:  TARE: 26,85 g
s>=0.25T1  CANNOT BE TESTED
[F1]Assortment [F2]Operator [F3]Quantity
```

19. TECHNICAL PARAMETERS

19.1. Scales of WLY/KTPS series

Scale type:	**WLY 0,6/1,2/KTPS/D2**	**WLY 1,2/3/KTPS/D2**	**WLY 3/6/KTPS/D2**	**WLY 6/12/KTPS/D2**
Maximum capacity	0,6 / 1,2kg	1,2 / 3kg	3 / 6kg	6 / 12kg
Minimum capacity	5g	10g	25g	50g
Reading division [d]	0,1 / 0,2g	0,2 / 0,5g	0,5 / 1g	1 / 2g
Verification interval [e]	0,1 / 0,2g	0,2 / 0,5g	0,5 / 1g	1 / 2g
Tare range	-1,2kg	-3kg	-6kg	-12kg
Repeatability	0,1 / 0,2g	0,2 / 0,5g	0,5 / 1g	1 / 2g
Linearity	±0,1 / 0,2g	±0,2 / 0,5g	±0,5 / 1g	±1 / 2g
Stabilization time	3s			
OIML Class	II			
Pan size	195 x 195mm			
Operation temperature	-10°C to +40°C			
Storage temperature	-25°C to +70°C			
Ingress protection rating	IP 54			
Power supply	110÷230VAC 50/60Hz – 10,5÷15VDC			
Display	5,7'' with touch panel			
Interfaces	2 x USB, 2 x RS232, Ethernet, 4In / 4Out			
Net / Gross weight	2,7 / 3,6kg			
Package dimensions	490 x 300 x 150mm			

Scale type:	**WLY 6/12/KTPS/C1/R**	**WLY 12/30/KTPS/C1/R**	**WLY 60/KTPS/C2/R**	**WLY 60/120/KTPS/C2/R**
	WLY 6/12/KTPS/C1/K	**WLY 12/30/KTPS/C1/K**	**WLY 60/KTPS/C2/K**	**WLY 60/120/KTPS/C2/K**
Maximum capacity	6 / 12kg	12 / 30kg	60kg	60 / 120kg
Minimum capacity	50g	100g	0,5kg	0,5kg
Reading division [d]	1 / 2g	2 / 5g	10g	10 / 20g
Verification interval [e]	1 / 2g	2 / 5g	10g	10 / 20g
Tare range	-12kg	-30kg	-60kg	-120kg
Repeatability	1 / 2g	2 / 5g	10g	10 / 20g
Linearity	±1 / 2g	±2 / 5g	±10g	±10 / 20g
Stabilization time	3s			
OIML Class	II			
Pan size	360 x 290mm		400 x 500mm	
Operation temperature	-10°C to +40°C			
Storage temperature	-25°C to +70°C			
Ingress protection rating	IP 54			
Power supply	110÷230VAC 50/60Hz – 10,5÷15VDC			
Display	5,7'' with touch panel			
Interfaces	2 x USB, 2 x RS232, Ethernet, 4In / 4Out			
Net / Gross weight	6,5 / 7,8kg		15,5 / 17,8kg	
Package dimensions	550 x 420 x 220mm		720 x 580 x 220mm	

19.2. Scales of WPY/KTPS series

Scale type:	WPY 0,6/1,5/KTPS/D2	WPY 1,5/3/KTPS/D2	WPY 3/6/KTPS/D2
Maximum capacity	0,6 / 1,5kg	1,5 / 3kg	3 / 6kg
Minimum capacity	4 / 10g	10 / 20g	40 / 40g
Reading division [d]	0,2 / 0,5g	0,5 / 1g	1 / 2g
Verification interval [e]	0,2 / 0,5g	0,5 / 1g	1 / 2g
Tare range	-1,5kg	-3kg	-6kg
Repeatability	0,2 / 0,5g	0,5 / 1g	1 / 2g
Linearity	±1 / 2g	±1 / 2g	±1 / 2g
Stabilization time	2s		
OIML Class	III		
Pan size	195 × 195mm		
Operation temperature	-10°C to +40°C		
Storage temperature	-25°C to +70°C		
Ingress protection rating	IP 54		
Power supply	110÷230VAC 50/60Hz – 10,5÷15VDC		
Display	5,7'' with touch panel		
Interfaces	2 x USB, 2 x RS232, Ethernet, 4In / 4Out		
Net / Gross weight	2,7 / 3,6kg		
Package dimensions	490 x 300 x 150mm		

Scale type:	WPY 3/6/KTPS/C1/K WPY 3/6/KTPS/C1/R	WPY 6/15/KTPS/C1/K WPY 6/15/KTPS/C1/R	WPY 15/30/KTPS/C1/K WPY 15/30/KTPS/C1/R	WPY 30/60/KTPS/C1/K WPY 30/60/KTPS/C1/R
Maximum capacity	3 / 6kg	6 / 15kg	15 / 30kg	30 / 60kg
Minimum capacity	20 / 40g	40 / 100g	100 / 200g	200 / 400g
Reading division [d]	1 / 2g	2 / 5g	5 / 10g	10 / 20g
Verification interval [e]	1 / 2g	2 / 5g	5 / 10g	10 / 20g
Tare range	-6kg	-15kg	-30kg	-60kg
Repeatability	1 / 2g	2 / 5g	5 / 10g	10 / 20g
Linearity	±1 / 2g	±2 / 5g	±5 / 10g	±10 / 20g
Stabilization time	2s			
OIML Class	III			
Pan size	290 × 360mm			
Operation temperature	-10°C to +40°C			
Storage temperature	-25°C to +70°C			
Ingress protection rating	IP 54			
Power supply	110÷230VAC 50/60Hz – 10,5÷15VDC			
Display	5,7'' with touch panel			
Interfaces	2 x USB, 2 x RS232, Ethernet, 4In / 4Out			
Net / Gross weight	6,5 / 7,8kg			
Package dimensions	550 x 420 x 220mm			

20. ERROR MESSAGES

Err2 - Value beyond the zero range,

Err3 - Value beyond the tare range,

Err8 - Tarring / zeroing operation time exceeded,

NULL - Zero value from the AD converter,

FULL - Measurement range overflow,

HI - Display range overflow,

LH - Start mass error, the mass on the weighing platform is beyond the acceptable range ±10 of start mass

21. APPENDIX F - Communication with barcode scanners

1. For communication with barcode scanners RADWAG scales use RS232 interfaces and simplex transmission (one direction) without handshaking. Only two wires are required for assuring such a transmission. Used scanners should be equipped in such interface with disabled both hardware and software handshaking.
2. Both scales and scanners have the possibility of setting of transmission parameters. Both devices are required to have the same parameters set: baud rate, number of data bits, parity control, stop bits. e.g. 9600,8,N,1 – baud rate 9600 bit/s, data 8-bits, no parity control, 1 stop bit.
3. Barcode scanners can send additional information apart from the expected barcode e.g. symbology (type of barcode). It is advisable to disable such information because RADWAG devices and software do not use it.
4. Some RADWAG systems can omit unnecessary information by using parameters that mark the beginning and the length of the code required to analyse.
5. A special protocol is required in order the code be received by RADWAG equipment. It is required to program an appropriate *prefix and suffix*. Prefix – one byte 01 hexadecimally, suffix one byte 0D hexadecimally.
6. Most barcode scanners allow to enable/disable different symbologies (barcode types).
7. Programming of scanners is usually performed by reading special barcodes or by using an external software tool.
8. Scanners marketed together with RADWAG systems are always configured according to the rules above.

Barcode with required prefix and suffix in hexadecimal format	**Barcode without required –fixes in ASCII format**	**Code type**
01 30 30 32 31 30 31 32 36 0D	00210126	EAN-8
01 30 31 32 33 34 35 36 37 38 39 0D	0123456789	2 of 5
01 43 4F 44 45 20 33 39 20 54 45 53 54 0D	CODE 39 TEST	CODE 39
01 31 31 30 31 32 33 34 35 36 37 38 39 31 0D	1101234567891	EAN-13
01 43 6F 64 65 20 31 32 38 20 54 65 73 74 0D	CODE 128 Test	CODE 128

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